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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,177	02/28/2002	Mitsuru Takai	p22032	4788
7055	7590	09/08/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C.			AKHAVANNIK, HADI	
1950 ROLAND CLARKE PLACE			ART UNIT	
RESTON, VA 20191			PAPER NUMBER	

2621

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/084,177	TAKAI ET AL.	
	Examiner	Art Unit	
	Hadi Akhavannik	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/24/2002</u> . | 6) <input type="checkbox"/> Other: ____ |

1. Examiner acknowledges the amendment to claim 3 and additional claims 8-10.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al (6169282 referred to as "Maeda" herein).

Regarding claim 1, Maeda discloses a next process-determining method comprising steps of digitizing a sample object into sample data formed by digital data; compressing the sample data into compressed sample data predetermined data format (figure 18 item 39 and column 10 line 59 to column 11 line 22 disclose digitizing a sample object into digital data and compressing the data into a specified format by passing it through a multitude of filters. It is noted that the "filtering" of Maeda reads on the claimed compression because filtering removes selected data, which thus reduces the total amount of data.);

calculating a difference data amount between a data amount of the compressed sample data and a data amount of reference data formed by digitizing and compressing a reference sample object in the same manner as the sample object processed (figure 18 item 103 and column 11 line 22 to column 13 line 23, specifically column 13 line 15-

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20 disclose a difference extraction circuit that takes the difference between two optical images) ;

identifying which of a plurality of predetermined numerical ranges the difference data amount belongs and determining a with the identified numerical range advance next process to be carried out next (column 13 line 23-41 disclose that the comparator assigns an output of 1 if there is a defect and an output of 0 is there is no defect. If there is a defect then the information is sent to storage and the defect data can be displayed).

3. Regarding claim 3, Maeda discloses a next process-determining method according to claim 1, wherein the sample data is formed by image data obtained by picking up an image of the sample object (figure 18 item 31 and column 10 line 59 to column 11 line 21 disclose image pickup and filtering),

the digital data being composed of data of pixels formed in picking up the image of the sample object (column 11 lines 24-29 disclose pixel-wise matching. This shows that the images are made of pixels).

4. Regarding claim 4, Maeda discloses a next process-determining method according to claim 3, wherein the reference sample object is changed with a lapse of time (figure 18 item 41 and column 11 lines 8-21 disclose a delay circuit that changes the reference with a lapse of time)

5. Regarding claim 5, Maeda discloses a next process-determining method according to claim 4, wherein the compressed sample data which is formed based on an image of the sample object picked up on an immediately preceding occasion

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sequentially changed to the reference data (column 11 lines 8-21, specifically lines 19-21 disclose that the sample object becomes a reference object).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Streater (5831677).

6. Regarding claim 2, Maeda discloses all aspects of claim 2 except he does not disclose a data compressing method which is capable of compressing an amount of data at a higher rate as digital data of an identical kind occurs more continuously, or as the digital data has a higher regularity.

Streater discloses an adaptive image data compressor that is capable of compressing an amount of identical digital data at a higher rate if it occurs more continuously or at a higher regularity (figure 1, figure 3, column 4 lines 56 to column 5 line 6, column 6 lines 38-58 disclose a compressor that continuously learns from previous images resulting in quicker and higher quality compression).

It would have been obvious at the time of the invention to one in ordinary skill in the art to combine in Maeda a learning compressor as taught by Streater in order to create a more flexible and efficient system that is able to compress data more effectively and provide yet another method for compression).

7. Regarding claim 6, the rejection of claim 2 discloses all aspects of claim 6 except for carrying out the predetermined process based on the numerical range. Maeda discloses that a process is carried out depending on the numerical range (column 13 lines 34-41 discloses that the defect data, which is recognized based on the numerical range, is stored on external storage or data processor).

8. Claim 7 is rejected to as being the same as claim 6, except claim 7 is an apparatus claim and claim 6 is a method claim. Thus, argument similar to that presented above for claim 6 is equally applicable to claim 7. Please note the apparatus is disclosed in figure 18 and column 10 line 18 to column 13 line 70.

9. Regarding claim 8, the combination of Maeda and Streater disclose a next process-determining method according to claim 2, wherein the sample data is formed by image data obtained by picking up an image of the sample object, the digital data being composed of data of pixels formed in picking up the image of the sample object

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(figure 18 item 31 and column 10 line 59 to column 11 line 21 disclose image pickup and filtering and column 11 lines 24-29 disclose pixel-wise matching. This shows that the images are made of pixels).

10. Regarding claim 9, the combination of Maeda and Streater disclose a next process-determining method according to claim 8, wherein the reference sample object is changed with a lapse of time (column 11 lines 8-21 disclose a delay circuit that changes the reference with a lapse of time).

11. Regarding claim 10, the combination of Maeda and Streater disclose a next process-determining method according to claim 9, wherein the compressed sample data which is formed based on an image of the sample object picked up on an immediately preceding occasion is sequentially changed to the reference data (column 11 lines 8-21, specifically lines 19-21 disclose that the sample object becomes a reference object).

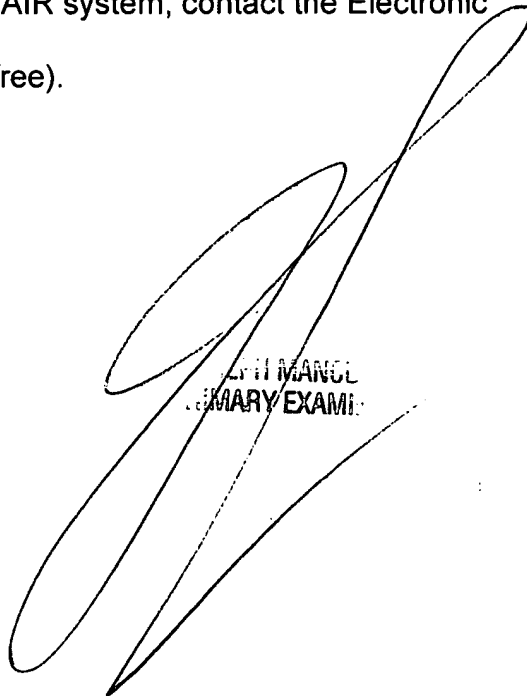
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is Saito et al (5184229 discloses a compression coding device), Yamamoto et al. (6868175 discloses a pattern inspection apparatus), Kobayashi (4758782 discloses a method for inspecting a printed circuit board), Rattey et al (5289549 discloses an adaptive image data compressor), Imade et al. (5872864 discloses an image processor with adaptive data processing).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Akhavannik whose telephone number is 571-272-8622. The examiner can normally be reached on 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HADI AKHAVANNIK
EXAMINER